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EXAMINER
MOUTAOUAKIL, MOUNIR

ART UNIT	PAPER NUMBER
2619	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 June 2008</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-5,7-13 and 15-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-5, 7-13, and 15-18</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Amendments filed on 06-30-2008 have been entered.

Claims 1-5, 7-13, and 15-18 are pending in this application.

Claims 6 and 14 has been cancelled.

Claims 1-5, 7-13, and 15-18 are still rejected.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
       obviousness or nonobviousness.

3.   Claims 1-5, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Barney et al, PGPUB 20020072875 (hereinafter Barney), in view of Dick et al

PGPUB

2003/0147362 (hereinafter Dick) and further in view of Crocker et al (US 7,065,779).

Hereinafter referred to as Barney, Dick, and Crocker.

With respect to Claim1

Barney teaches a plurality of controllers and a communication network connecting each

of the controllers (See section [0004], lines 3-6); determining a time synchronization

function is enabled (See section [0004], lines 6-8,as well as section [0011], where

establishing an operating characteristic is substantively the same as synchronization

function, as well as section [0015], lines5-10, where synchronization is perform only

when machine is operating);

Barney further teaches determining a time difference between said communications

network time and said module reference time provided by said module (See

section[0019]); determining that said determined time difference is greater than a first

limit, and less than or equal to a second limit; and automatically adjusting, (See

section[0020], lines 6-10, where one clock is automatically and held or paused, until the

difference has been gradually reduced or eliminated) automatically, said network

communications network time to synchronize with said module reference time over a

predetermined synchronization interval (See section[0019], lines 9-12], as well as

section[0021], as well as section[0020],line 12-16, where synchronization is automatic,

where synchronization is done over an interval).

Barney further teaches determining a predetermined synchronization and adjusting time

(see section 20).

Barney does not teach determining a correction rate, and adjusting time based on

correction rate.

Dick which is in the same field of endeavor (time synchronization), teaches determining

a correction rate and adjusting time based on correction rate (see section [0076] and

[0069]. Also see section [0041] and section [0043]). Thus, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to determine a

correction rate, and use it for time adjustment as taught by Dick in the invention of

barney, in order to avoid misinterpretation of data by a receiving station, as

synchronization allow receiving station to properly interpret data packet received.

Barney in view of Dick discloses all the limitations of the claimed invention with the

exception that a master module periodically communicates network communication time

to the other modules in the network. However, Crocker, from the same field of

endeavor, discloses a synchronization technique where a master node, periodically,

provides current timestamp data to a plurality of network nodes/salve devices for the

purpose of synchronizing themselves with the master node (see col.19, lines 40-45).

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the

invention to employ the synchronization technique, as taught by Crocker, in the network

of Barney in view of Dick for the reason stated above.

<u>With respect to Claim 2</u>

Barney further teaches gradually adjusting results in a reduction of said time difference

between said communications network time and said module reference time that is

substantially constant and without a time reversal. (See section [0021], where by setting

local time to official time means reducing difference between the two to zero, as well as

section [0020], lines 1-10, where local time synchronization is either done by fast

forwarding the clock or pausing the clock, but never backward which is substantively the

same as reverse).

With respect to Claim 3

Barney further teaches determining that a system change is requested; and

in response to said system change request, immediately synchronizing, automatically,

said communications network time and said module reference time (See section [0020],

lines 1-3).

With respect to Claim 4

Barney further teaches two of the alternative limitation of claim 4 which is; system

change is a module being initialized for providing said module reference time (See

section [0019], lines 1-7, where master controller is the reference controller), and a

user-initiated time synchronization (See section [0022], lines 5-12, where an operator

will perform the synchronization)

With respect to Claim 5

Barney further teaches determining that the time difference between said

communications network time and said module reference time is greater than a third

limit that is greater than said second limit (See section [0022], lines 1-4); and in

response to said time difference being greater than said third limit, taking no automatic

action to synchronize said time difference between said communications network time

and said module reference time. (See section [0022], lines 4-13, where no action is

automatically taken; by the system as oppose to be manually updated by a technician)

With respect to Claim 7-11

Claims 7-11 are rejected for the same reason as rejected claims 1-5, except for a

storage medium having instruction to perform the above limitation

Barney disclose controller that inherently comprise medium storage suitable to carry the

instruction to perform the above limitation (see section [0009]).

4.   Claims 12-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barney et al, PGPUB 20020072875 (hereinafter Barney), in view of

Kirk, Patent No 4709347, (hereinafter Kirk), in view of Dick et al PGPUB 2003/0147362

(hereinafter Dick), and further in view of Crocker.

<u>With respect to Claim 12</u>

Barney teaches a plurality of controllers and a communication network connecting each

of the controllers (substantively the same as module) (See section [0004], lines 3-6);

with one of the controller a master controller (see section [0019], lines 1-3).

Barney disclose modules/controller with a time synchronization function (see section

[0012]),

Determines a time difference between said communications network, time and said

module reference time provided by said module (section [0019]) determines that the

determined time difference is greater than a first limit, and less than or equal to a

second limit (see section [0021]). Barney further teaches that the controller determine a

predetermined synchronization and adjusting time (see section 20]).

Barney does not teach that the module/controller determines a correction rate, and

adjusting time based on correction rate. Barney does not teach module comprising:

a processor; a network interface for providing a communication interface to said

communications network; a bus interface for providing a communication interface to a

host processor; and a system clock subsystem for providing said module reference time
and for controlling a time synchronization function to reduce a time difference between
said communications network time and said module reference time. However, Dick
which is in the same field of endeavor (time synchronization), teaches determining a
correction rate and adjusting time based on correction rate (see section [0076] and
[0069]. Also see section [0.041] and section [0043]). Thus, It would have been obvious
to one of ordinary skill in the art at the time the invention was made to determine a
correction rate, and use it for time adjustment as taught by Dick in the invention of
barney, in order to avoid misinterpretation of data by a receiving station, as
synchronization allow receiving station to properly interpret data packet received.

Kirk which is in the same field of endeavor (clock synchronization in a network), disclose
a clock synchronization system with a master station and slave station (See abstract,
lines 1-4, as well as column 1, lines 60-68, column 2, lines 31-36), comprising

A processor (See figure 2, item 36-04, as well as column 4, lines 57-65), a network
interface (See figure 2, item 18-04, as well as column 4, lines 12-18), a bus interface
(figure 2, item 16-04, as well as column 4, lines 12-13), and a system clock (see fig 2,
item 48-04, as well column 5, lines 5-10). Thus, It would have been obvious to one of
ordinary skill in the art at the time the invention was made to use a module comprising a
processor, network interface, bus interface and system clock subsystem in order to
synchronize to a desired degree of accuracy the timing subsystems of the modules of a
distributed local area network by the master and the slave (See abstract, lines 1-5).

Barney in view of Kirk in view of Dick discloses all the limitations of the claimed

invention with the exception that a master module periodically communicates network

communication time to the other modules in the network. However, Crocker, from the

same field of endeavor, discloses a synchronization technique where a master node,

periodically, provides current timestamp data to a plurality of network nodes/salve

devices for the purpose of synchronizing themselves with the master node (see col.19,

lines 40-45). Thus, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to employ the synchronization technique, as taught by Crocker,

in the network of Barney in view of Dick for the reason stated above.

With respect to Claim 13

Barney further teaches gradually adjusting results in a reduction of said time difference

between said communications network time and said module reference time that is

substantially constant and without a time reversal. (See section [0021], where by setting

local time to official time means reducing difference between the two to zero, as well as

section [0020], lines 1-10, where local time synchronization is either done by fast

forwarding the clock or pausing the clock, but never backward which is substantively the

same as reverse).

With respect to Claim 15

Barney further teaches determining that a system change is requested; and

in response to said system change request, immediately synchronizing, automatically,

said communications network time and said module reference time (See section [0020],

lines 1-3).

With respect to Claim 16

Barney further teaches two of the alternative limitation of claim 4 which is; system change is a module being initialized for providing said module reference time (See section [0019], lines 1-7, where master controller is the reference controller), and a user-initiated time synchronization (See section [0022], lines 5-12, where an operator will perform the synchronization)

With respect to Claim 17

Barney further teaches determining that the time difference between said communications network time and said module reference time is greater than a third limit that is greater than said second limit (See section [0022], lines 1-4); and in response to said time difference being greater than said third limit, taking no automatic action to synchronize said time difference between said communications network time and said module reference time. (See section [0022], lines 4-13, where no action is automatically taken; by the system as oppose to be manually updated by a technician)

With respect to Claim 18

Barney does not teach time synchronization function including a predetermined synchronization interval operates on a periodic basis.

Dick teaches a network controller having a synchronization function including said predetermined synchronization interval operates on a periodic basis (see section [0041], where update is done once per unit of time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to synchronize clock in a communication network, as taught by Dick in the

invention of barney, in order to avoid misinterpretation of data by a receiving station, as synchronization allow receiving station to properly interpret data packet received.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-5, 7-13, and 15-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO_892.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

When responding to this office action, applicants are advised to clearly point out the patentable novelty which they think the claims present in view of the state of the art disclosed by the references cited or the objections made. Applicants must also show how the amendments avoid such references or objections. See 37C.F.R 1.111(c). In addition, applicants are advised to provide the examiner with the line numbers and pages numbers in the application and/or references cited to assist examiner in locating the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOUNIR MOUTAOUAKIL whose telephone number is (571)270-1416. The examiner can normally be reached on Monday-Thursday (1pm-4: 30pm) eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mounir Moutaouakil/
Examiner, Art Unit 2619

/Hassan Kizou/
Supervisory Patent Examiner, Art Unit 2619